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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/849,683	08/10/2004	Carl Andrew Reis	NORTH-601B	7546
7663	7590	11/01/2005	EXAMINER	
STETINA BRUNDA GARRED & BRUCKER 75 ENTERPRISE, SUITE 250 ALISO VIEJO, CA 92656			STAICOVICI, STEFAN	
			ART UNIT	PAPER NUMBER

1732

DATE MAILED: 11/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/849,683

Applicant(s)

REIS ET AL.

Examiner

Stefan Staicovici

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 August 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-3, 5-6, and 12-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-3, 5, 6, 12 and 13 is/are allowed.
- 6) ☒ Claim(s) 14-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Amendment***

1. Applicants' amendment filed August 19, 2005 has been entered. Claims 1-3, 5-6, and 12-20 are pending in the instant application.

### ***Terminal Disclaimer***

2. The terminal disclaimer filed on August 19, 2005 disclaiming the terminal portion of any patent granted on this application that would extend beyond the expiration date of US Patent Application No. 10/779,901 has been reviewed and is accepted. The terminal disclaimer has been recorded.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 14-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over McKague, Jr. *et al.* (US Patent No. 6,553,734 B1) in view of McKague, Jr. *et al.* (US Patent No. 6,520,706 B1).

McKague, Jr. *et al.* ('734) teach the basic claimed process for making a preform for use in a composite structure including, providing a fiber sheet (11) having fibers oriented in a specific direction of uniform or variable length, wherein said fiber length (15) are defined by slits (17) in

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a direction perpendicular to said fibers, said slits (17) being spaced apart from slits in an adjacent row (see Figure 1), cutting said sheets (11), stacking said sheets (11) in an integrated layer (21), forming said integrated layer in a sinusoidal shaped mold (41) such that stretching of the material occurs to thereby enhance deformability and shaping of the material (see col. 3, lines 1-58). Further, McKague, Jr. *et al.* ('734) teach a sine-wave configuration tapered (progressively expanding the preform from the first edge to the second edge) (see col. 4, lines 16-29 and Figure 8).

Regarding claims 14-16, McKague, Jr. *et al.* ('734) do not teach shaping said preform, specifically a pi-shaped preform having a leg portion and a foot portion. McKague, Jr. *et al.* ('706) teach a pi-shaped preform (11) (foot portions and leg portions) that has been shaped in a sinusoidal manner (see Figure 6A). Therefore, it would have been obvious for one of ordinary skill in the art to have formed a pi-shaped preform as taught by McKague, Jr. *et al.* ('706) using the process of McKague, Jr. *et al.* ('734) because, McKague, Jr. *et al.* ('734) specifically teaches that by forming slits the deformability of the preform improves, hence resulting in an improved process and also because a sinusoidal shaped preform provides for improved mechanical properties.

In regard to claim 17, McKague, Jr. *et al.* ('734) teach a fiber sheet (11) having fibers oriented in a specific direction of uniform or variable length, wherein said fiber length (15) are defined by slits (17) in a direction perpendicular to said fibers, said slits (17) being spaced apart from slits in an adjacent row (see Figure 1), hence forming discontinuous fibers.

Specifically regarding claims 18-20, McKague, Jr. *et al.* ('734) teach a tapered (expanding the preform from the first edge to the second edge) sine-wave configuration having a

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flange out-of-plane (see col. 4, lines 16-29 and Figure 8).

*Allowable Subject Matter*

5. Claims 1-3, 5-6 and 12-13 are allowed.

*Response to Arguments*

6. Applicants' arguments filed August 19, 2005 have been considered.
7. Applicants' arguments are drawn to newly presented claims that have been rejected in this Office Action as set forth above.
8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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***Conclusion***

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stefan Staicovici, Ph.D. whose telephone number is (571) 272-1208. The examiner can normally be reached on Monday-Friday 9:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael P. Colaianni, can be reached on (571) 272-1196. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Stefan Staicovici, PhD



Primary Examiner

10/30/05

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October 30, 2005